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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,285	09/25/2006	Christoph Briehn	WAS0807PUSA	6497
22045	7590	12/03/2009	EXAMINER	
BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075			PAK, HANNAH J	
			ART UNIT	PAPER NUMBER
			1796	
			MAIL DATE	DELIVERY MODE
			12/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,285	Applicant(s) BRIEHN ET AL.	
	Examiner Hannah Pak	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Appeal Brief filed 09/09/2009 has been considered. Upon reconsideration of the claims by the examiner, new grounds of rejection are set forth below. The finality of the previous Office action has been withdrawn, and thus, the following action is non-final.
2. The text of those actions of Title 35, U.S. Code not included in this action can be found in a prior office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al. (US 6,306,502).

Fukushima et al. disclose a coating composition excellent in curability and useful for forming an abrasion resistant coating comprising particulate colloidal silica having a primary particle size of 1-200 mμ (encompassed by the claimed range of less than 1000 nm) dispersed in water or organic solvent, such as alcoholic solvents, which corresponds to the claimed colloidal silicon dioxide particles with the functionality of Si-OH ($\text{Si}(\text{OH})_4$). Fukushima et al. also disclose a radical polymerizable silane compound or its hydrolysis product represented by the general formula, $(\text{R}^3\text{O})_{4-a-b} \text{Si}(\text{R}^2)_b(\text{X}-\text{R}^1)_a$,

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wherein R^3 is an alkyl groups with 1-6 carbons, corresponding to claimed R^1 when R^1 is a hydrocarbon radical having 1-6 carbon atoms, R^2 is an alkyl group with 1 carbon, corresponding to the claimed CR^3_2 when R^3 is a hydrogen, X is a $O-C(=O)-CH=CH_2$, which corresponds to claimed A when A is an oxygen and claimed D when D is a carbonyl group, R^1 is an alkylene group, corresponding to the claimed C when C is an ethylenically unsaturated group, and a is equal to 1-3 while b is equal to 0-2 (Col. 3, lines 10-32). The coating composition further comprises polyfunctional (meth)acrylate exposed to ultra-violet-induced polymerization, which corresponds to the claimed binder bearing at least one ethylenically unsaturated group (Col. 3, lines 34-55 and Col. 4, line 56-Col. 5, line 4). Furthermore, Fukushima et al. disclose applying the coating composition to the surface of synthetic resin molded articles, and then cure it by ultraviolet radiation energy, to improve abrasion resistance, weather resistance, and the like (Col. 12, lines 41-55).

Although Fukushima et al. do not specify formula I recited in claim 11 is formed, there is a reasonable basis to find such product is formed in Fukushima et al. since it combines the same ingredients required by the claims (*see MPEP § 2112 [R-3], V*).

Response to Arguments

4. Applicants' arguments filed 09/09/2009 are persuasive to the extent that new grounds of rejection are set forth in order to teach the claimed formula II by a different reference, i.e. Fukushima et al. The applicants argued **(A)** unexpected results to show that their claimed invention achieves unexpectedly superior results (see Pages 7-8).

They also indicate **(B)** that there has been a long felt need for higher scratch resistance by the claimed composition (see Page 8 of the Applicants' Remarks).

With respect to argument **(A)**, the applicants' arguments and examples directed to alleged unexpected results do not overcome the prima facie case of obviousness and obviousness-type double patenting established in the record. While it is true that a showing of unexpected results can rebut any inference of obviousness established by the prior art of record, the applicants have the burden of showing that the claimed invention as whole imparts such unexpected results. The applicants have not shown why the limited showing in the example is commensurate in scope with the degree of protection sought by the very broad claims of the instant application, see *MPEP* § 716.02. For instance, while the example shown on pages 7-8 of the Applicants' Remarks is limited to a specific compound, i.e. methacrylomethyltrimethoxysilane, to functionalize a specific particle, i.e. silica, the claims are not so limited. The claimed formula includes any and all types of compounds, and not limited to the one shown in the examples by the applicants. Accordingly, the applicants fail to rebut the prima facie case of obviousness established in the record.

With respect to argument **(B)**, it states that the claimed subject matter solved a problem that was long standing in the art. However, there is no showing that others of ordinary skill in the art were working on the problem and if so, for how long. In addition, there is no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem, see *MPEP* § 716.04. For instance, Fukushima et al.

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reference was published back in 2001 and also teaches improving improved scratch or abrasion resistance. Thus, the declaration is insufficient and there is no evidence of long felt need.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hannah Pak whose telephone number is (571) 270-5456. The examiner can normally be reached on Monday - alternating Fridays (7:30 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Hannah Pak
Examiner
Art Unit 1796

/HP/

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796